

FIG S1 *A. bisphaerica* field nest with the first chamber opened and exposing the fungus garden (A). Note the top and the underside parts of the nest chamber, the white spots of *L. gongylophorus* on fungus garden peripheral sector which circumvents the entire fungus garden structure, and the core sector with a few number of *L. gongylophorus* clusters. Samples containing green plant fragments collected from the peripheral sector (B) or pale yellow plant fragments collected from the core sector (C) are also shown.

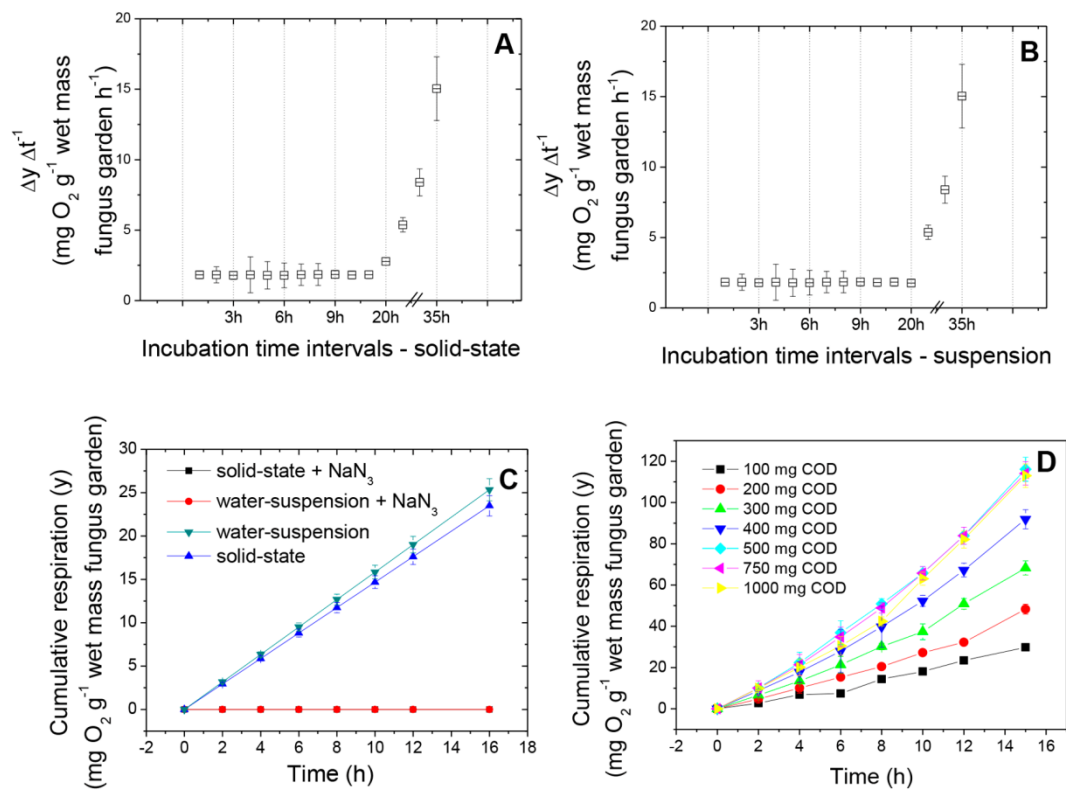


FIG. S2

FIG S2 Respiration of whole ant-free fungus garden material. A - Respiration stability of solid state fungus garden. B- Respiration stability of fungus garden suspension. C - Effect of sodium azide on respiration. D- Acetate-induced respiration.

Table S1. Variation in mass and fiber glucose after incubation of ant-free whole fungus garden material.

Incubation (h)	Residual Material (mg)	Filtrate (mg)	Glucose in fiber (mg [%])
0	81.34 (11.32) ^a	122.18 (15.67) ^a	19.41 (7.23) ^a [24]
10	10.14 (4.39) ^b	178.41 (10.14) ^b	9.23 (2.12) ^b [91]
Δ	- 70.94 (15.71)	58.23 (25.81)	9.62 (8.67)

Data represent the mean (SD) obtained from samples (548,65±8,68 mg; wet mass) of fungus garden material from six different nests. Values followed by different letters were significantly distinct from each other according to the Mann-Whitney test at $p \leq 0.05$ into columns.